

**Late Archaeological Discoveries and Public Outreach:  
The Cabbage Pond Mill Site, Sussex County, Delaware**

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**Introduction**

Public participation is an important component in the nationwide environmental review process that regulates the activities of federal, state, and local governments in the protection of historic properties. This legislation has spawned an entire industry employing thousands of cultural resource professionals ensuring that important archaeological and historical sites will not be summarily destroyed as a result of publicly-sponsored construction projects.

For many years, public outreach has been a hallmark of the Delaware Department of Transportation's (DelDOT) historic preservation program. DelDOT encourages consultants to embrace the multifaceted public in its cultural resource projects (archaeological sites and historic buildings) through communication, education, and community involvement.

Traditionally, public education conducted under the auspices of environmental legislation focuses on attendance at public meetings and the production of popular or reader-friendly reports often limited to large-scale, long-term, data recovery (Phase III) projects. This paper discusses public outreach during a "late discovery" archaeological investigation, which involved the excavation of an important mill site in the Lower Coastal Plain of Delaware during ongoing project construction.

Late archaeological finds provide a unique set of public-education challenges. Along with a discussion of the site's importance, this discussion details the various steps taken to involve the public including, for example, site tours, dissemination of information brochures, and informant interviews. This multi-stage approach to public outreach is consistent with recent changes to the Advisory Council on Historic Preservation's guidelines which provides for earlier and more effective public involvement when encountering historic properties.

**Project Description**

In late 1997, during installation of a silt fence for a bridge replacement project over Cabbage Pond in Sussex County, Delaware, highway workers discovered a partially buried, brick foundation just outside the project's limits of construction. Sensitive to the possible importance of the archaeological find, the contractor contacted the Delaware Department of Transportation in accordance with the agency's review system for protecting historic properties. Under contract to DelDOT, archaeologists employed with GAI Consultants, Inc. (GAI) of Monroeville, Pennsylvania, conducted a field reconnaissance of the area to determine whether important archaeological resources would be impacted by project construction. This work also involved informant interviews and examination of several historical documents at various institutions providing information on the

possible age and function of the discovery. The goal of this work was to make a preliminary assessment of the significance of the identified brick foundation through the collection of historical and archaeological data.

Information collected from the archives quickly determined that the foundation was related to an historic gristmill possibly dating as early as the late 18<sup>th</sup> eighteenth century. Fieldwork including the excavation of one foot-diameter shovel test pits (“windows to the past”) in conjunction with hand-held probing confirmed that the foundation discovered by the construction worker extended beneath the adjacent asphalt road, in the path of proposed bridge construction. This road, like many others along Cedar Creek and throughout the state, ran atop the milldam providing a means of crossing Cubbage Pond.

Subsequent archaeological and historical investigations uncovered the remains of a gristmill that operated in the area from the late 18<sup>th</sup>- to mid-20<sup>th</sup> century. Because of the exceptional preservation and importance of the archaeological find, the site was determined eligible for listing in the National Register of Historic Places. For this reason, bridge construction was temporarily postponed until important information from the site could be obtained. Archaeological data recovery investigations were conducted during a compressed five-week field effort between November 1997 and February 1998. This work involved detailed historical research, intensive site excavations, and analysis, ultimately resulting in the production of a two-volume report.

### **Site Background**

Ideally, archival research takes place prior to archaeological investigations providing an historic context for evaluating identified archaeological resources. However, on a late discovery project such as Cubbage Pond, it was necessary to conduct this work simultaneously. A number of institutions were consulted including the Hall of Records (Delaware State Archives), Delaware Division of Historical and Cultural Affairs (State Historic Preservation Office), Sussex County Courthouse, Historical Society of Delaware, Milford District Free Public Library and Historical Society, Hagley Museum and Library, and the Library of Congress. Various historical sources were examined at these locations such as deeds, Orphans Court records, probates, census data, road papers, tax assessments, insurance records, state directories, newspapers, and published texts.

Historical research indicates that a gristmill was located at the site, along Cedar Creek, as early as the late 18<sup>th</sup> century. The property was apparently acquired by William Draper (decd. 1808) sometime between the late 18<sup>th</sup> and first decade of the 19<sup>th</sup> century. Samuel Draper, eldest son of William Draper, obtained the property through the Orphans Court circa 1821. It was referred to at this time as the “old mill tract of two acres...” (Since William Draper died without a will (intestate), the state was required to assess his assets and divide them among his heirs.) Orphan’s Court and Road Petition Survey maps depict an “old mill” (two stories in height), adjacent to a dam along the North Fork of Cedar Creek, by the first quarter of the 19<sup>th</sup> century. Additional research into the Orphans Court Records suggests that a mill was possibly located at this site as early as the American Revolution. Samuel Draper sold the mill property shortly after acquiring it to Lemuel Shockley, who purchased other mill properties along Cedar Creek in the immediate vicinity of the project area.

A review of the *Price and Rea Map of the State of Delaware* (1850) and the *Beers Atlas of the State of Delaware* (1868) indicates that, during the mid-19<sup>th</sup> century, the gristmill was associated with a “Davis” and “C.M. Miles” respectively. John C. Davis and Charles M. Miles, owned

the mill property between 1833-1863 and 1866-1879, respectively. Many other owners throughout the 19th and early 20th century including John Dubois (1879-1881); Mark H. Davis (1881-1892), third son of John C. Davis; Frank Davis (1892-1908), eldest son of Mark H. Davis; and Sam Cabbage (1908-1917) acquired the property. Members of the Davis family owned the mill property, intermittently, for well over 50 years. During the late 1880s to early 1890s, it was advertised in state directories as Mark H. Davis & Son Flouring Mills. Local residents of the area, former patrons of the mill, suggest that it was in ruins as recently as the early 1950s.

Insurance and tax assessment records indicate that by 1868, the site included a "flouring grist and sawmill" measuring 24 by 40 feet with a 16 by 20-foot addition. The mill contained two sets of millstones and two circular saws at this time. A sawmill may have been added between 1866 and 1868 by Charles M. Mills, a millwright, who for "many years traveled from place to place working at his trade." Several sources suggest that the mill was rebuilt at least once, during the early 19<sup>th</sup> century, and again sometime around the last quarter of the 19<sup>th</sup> century. This interpretation is supported by the results of archeological investigations discussed in the following section.

Gathering background information also included meeting with the present owner of the miller's house located only 200 feet from the site. Suspicious of our intentions, however, initial attempts to make contact with the owner proved unsuccessful. Subsequently, we enlisted a member of the local historical society to try to acquire from the landowner historical information on the site. This quickly resulted in the recovery of an exterior view of the standing (abandoned) mill, circa 1950s. During the excavation we quietly dropped off public information flyers at her home while purposely avoiding individual requests for information. Toward the end of the project, however, following several weeks of excavation at the site and a variety of press coverage, the owner seemed to have gained enthusiasm for the project. In a total conversion, she soon thereafter provided a guided tour of her historic home for our architectural historian, offered interesting bits of information, and requested additional public information flyers for relatives. This proved to be one of the more satisfying aspects of the project's public outreach program.

### **Archeological Investigations**

Archaeological fieldwork identified a number of mill-related architectural features including a brick foundation, a series of brick piers, several interior floors, a log (corner-timbered) foundation, and multiple timber courses representing, at least, two water power systems. A mortared, brick foundation measuring approximately 26 feet by 24 feet was exposed in the central portion of the site, adjacent and partially buried by the modern road. The walls measure, in general, three courses wide and up to 10 courses in height. Excavations placed along the walls of the structure uncovered circular-sawcut, wooden footers, a common method of construction in saturated areas, suggesting a date for the brick foundation no earlier than circa 1850-1860.

Archaeological investigations along the interior of the brick foundation yielded multiple sealed contexts as revealed by the remains of at least two construction episodes. A cement floor was initially uncovered at a depth of approximately 2 feet below surface. Excavations through the floor revealed a shallow deposit containing burned wood and brick fragments. This deposit rested upon an irregularly-paved, partially burned brick floor containing ceramics, architectural debris, and a variety of burned artifacts including a buckle, cut nails, wood, and nutshells; recovery of a single patent bottle finish fragment dated the cement floor no earlier than the last quarter of the 19th century. Removal of

the brick surface yielded another 'burn layer.' In addition to burned architectural artifacts (wood, window glass, cut nails), redware and whiteware ceramics, and pharmaceutical vial fragments were also recovered. Collectively, these artifacts indicate that the brick floor was constructed sometime between the first to third quarter of the 19<sup>th</sup> century. Identification of successive burn layers associated with overlying brick and cement floors demonstrates the rebuilding of the mill following a fire. Along with previously cited historical data, this information contributes to our knowledge of the history and development of the mill site.

#### *Eastern Site Area/Addition*

An addition to the mill was identified in the eastern portion of the site, represented by three rows of brick foundation piers spaced approximately 10 feet apart. Excavations indicate that the above noted cement floor extended across this area suggesting that the (lean-to) addition likely dated to the mid-to-late 19<sup>th</sup> century. No evidence of a fire was uncovered in this area demonstrating that the addition represented a later phase of construction.

#### *Water Power System*

Archeological data recovery investigations at the Cabbage Pond Mill Site largely focused on the exposure, mapping, and removal of five structural courses, represented by circular sawcut- and hand-hewn, mortised beams, spanning over five vertical feet. Associated with the mill's waterpower system, this includes the presence of timber and later concrete wing walls to the west, channeling water from the millpond into the penstock (via a sluice gate) and two waterpower systems: a turbine and earlier water wheel. Due to their greater efficiency, turbines replaced the use of water wheels beginning in circa 1840, although they were not generally introduced on a large scale until after the Civil War. Results of archival and archeological investigations at the site suggest that a turbine was installed at the site by the last quarter of the nineteenth century.

An upper course of mortised beams associated with the mill's most recent phase supported an upper concrete penstock (20<sup>th</sup> century culvert) conveying water from the dam to the turbine. A lower penstock, measuring approximately 12 by 13 feet, was associated with a former water wheel, the third and fourth structural courses identified in the area. It consisted of large, mortised and pegged, hand-hewn timbers forming a large, ladder-like structure. Nail holes, observed in several locations, indicated the presence of a plank floor at its base.

The wheel pit was formed by the presence of three extensive, mortised beams and a series of parallel cross beams notched together forming a frame. Planking, comprising the floor of the wheel pit, covered the eastern end of this structure. The fifth and final course of timbers consisted of two east-west-trending, hand-hewn logs located directly beneath the wheel pits' extensive northern and southern beams. This course, which was built into the original marsh topsoil, appears to have comprised a structural footer for the wheel pit.

#### *Log Foundation*

Toward the end of fieldwork, an apparent five-course log foundation was encountered off of, and parallel to, the north and west walls of the brick foundation. The log foundation contained large, hand-hewn, corner-timbered logs, held in place with vertical posts. The structure extended nearly 30 feet in length and between 6 to 7 feet in height and may represent the location of an earlier 19<sup>th</sup> century or possibly late 18<sup>th</sup> century mill.

The Cabbage Pond Mill Project recovered important information on Delaware's industrial history adding to our knowledge of the location and chronology of mills in Delaware's Lower Coastal Plain, their layout, structure and operation, and the use, and changes in the use, of waterpower systems. Based on historical documentation, it appears that the site functioned primarily as a gristmill during its roughly 160-year history. We hope to have more exact dates for the log foundation and various courses of the mill's waterpower area following a dendrochronological (tree-ring) analysis of the mill timbers.

This project also illustrates the potential of discovering well-preserved mill sites below existing roads also serving as milldams. Results of the project caused a basic change in DelDOT's and the State Historic Preservation Office's thinking in gauging the archaeological potential of future bridge replacement projects as well as the importance of the milldam/road property context. The following discussion highlights the public education aspects of the project – one that was performed as part of a late or unanticipated archaeological discovery.

### **Public Outreach**

In spite of the compressed field schedule for this late discovery project, the public outreach program was a critical part of the overall investigation and included a variety of components. Each of the components, as discussed below, comprised part of a larger coordinated effort.

#### *Public Information Flyers*

The public outreach program began with the preparation and distribution of a color (FYI), double-sided, information flyer early in the field investigation, DelDOT's *Byways to the Past*. The purpose of the flyer was to quickly inform area residents of our work including reasons for the delay in construction activities. This was particularly important for a bridge replacement project, which resulted in the closing of the road for an extended period of time, a major inconvenience for local residents. The flyer contained basic descriptive information on the project including the nature and importance of the archaeological find, a brief history of the site (known at the time), a 19<sup>th</sup> century map depicting the mill, and identified contact personnel for learning more about the site.

Flyers were distributed to a variety of "publics" including the field crew and construction workers on site, local residents, interested citizens, libraries, post office, and schools, historical societies, civic organizations, senior citizen centers, DelDOT and State Historic Preservation Office employees, and the professional archaeological community. The flyer's effectiveness was tied to clear and concise communication and an effective and broad distribution system. Production of the flyer had an added, unplanned, benefit including the identification of several local residents familiar with the recent history of the site. Not surprisingly, a number of these individuals had a strong interest in our work and looked forward to visiting the archaeological excavation. Several conveyed to us their purchasing feed and flour at a small general store just north of the mill.

#### *Open House Mailer and Site Invitation*

The above information flyer was periodically updated, revised, and reformatted into a color, tri-fold glossy brochure providing more detailed information on the archaeological discovery and site history. Photographs were included in the brochure depicting ongoing archaeological investigations and a historical photograph of the mill provided by a local resident. Like before, the mailers were either hand-delivered or direct mailed free of charge to local residents and a variety of interested

groups such as the Milford Historical Society. One of the flyers invited the public to attend an Open House to observe "Archaeologists at Work" at a specified date and time. Toward this end, a site map and directions were provided on the back of the mailer along with a list of individuals and organizations involved in the project.

The Open House provided local residents with an opportunity to learn more about the archaeological project while gaining a better understanding of their local history as well as the broader environmental review process. Like the initial *FYI* flyer, the Open House provided a mechanism for project archaeologists to interact with the public many who were former patrons of the mill. For these citizens, their visit to the site resurrected old memories of the mill that instilled in them a sense of civic pride, which they shared with project staff. More than a few, now in their 80s, reminisced how local farmers brought their corn and wheat to the mill by horse-drawn wagon where it was weighed and ground into feed and flour. The Open House also gave the public an opportunity to experience first hand the physical remains of the mill, and express their concerns and interests regarding the project. In general, the Open House enhanced the public's sensitivity, awareness, and support of our work.

### *Informant Contacts*

As stated above, a number of knowledgeable local informants came forward as a result of the production of flyers and the Open House. Many of these individuals were subsequently interviewed with GAI's historian. Informants, most who lived in the immediate vicinity of the site, provided important information on the twentieth-century history and development of the mill and surrounding area. These included descendants and spouses of former mill owners and operators. Through discussions with informants we learned that Cabbage Mill produced primarily animal feed (cattle, horses, chicken), "crackin' corn," during this time while flour was purchased at a nearby mill. Several of these people remembered how noisy the mill was during its operation, particularly as corn was mechanically removed from the cob. Information provided by these individuals, including several key photographs, was of great importance in 'filling in' the recent past and led to a more complete picture of the site's history. In turn, we provided informants with some of the results of our historical research efforts – information that was greatly appreciated. This established a pattern of trust between project staff and informants resulting in new discoveries about the mill and demonstrating that public outreach is truly a two-way street.

### *Television and Newspaper Interviews*

Interviews were granted to several stations and a local newspaper and were conducted on site, during ongoing archaeological investigations, and later from the office following fieldwork. Newspaper, television, and radio interviews provided an opportunity to share information about the project with the wider community. This included Delaware citizens living throughout Sussex County and other parts of the state who were provided an opportunity of viewing the site excavations through television segments. Local residents viewing the television spots took pride in the importance of the local archaeological discovery.

To our surprise, shortly after it appeared in a local newspaper, the Associated Press picked up the story; as a result, a small article detailing the excavations appeared in a number of newspapers across the Mid-Atlantic States. Word of the find eventually made its way to Lexington, Kentucky where one resident had more than a passing interest in the story. It just so happens that this individual had annually visited Cabbage Pond, beginning in 1931 at the age of 7, as part of a

family fishing vacation and had a wealth of information on the mill's history. He quickly forwarded a map detailing mid-20<sup>th</sup> century natural and cultural features in the site vicinity, provided circa 1940s interior and exterior photographs, and committed his memories of the mill to paper in a transcript entitled, "Reflections on Cabbage Mill." These materials were of great importance and we, in turn, provided flyers and other information reporting the results of work at the site.

#### *Lectures and Poster Presentations*

Lectures and presentations were delivered to both the public and professional community including conferences, talks sponsored as part of Delaware Archaeology Week/Month, and involvement in Delaware Archaeology Dig Day. Public lectures were focused in and around the community of Milford and Lincoln where the archaeological find was made, and continue to this day on after the completion of the field project.

Two posters were also prepared – one involving the results of historical and archaeological work including field and historical photographs, and another depicting the vertical integration, i.e., operation, of a historic gristmill entitled, "A Gristmill at Work." DelDOT frequently uses these posters for educational purposes, particularly when visiting school groups. **KC Comment...kids reactions....**The latter poster serves as a learning tool graphically displaying various mill components and describing their function in the transformation of grain to flour. Additionally, poster displays were presented at professional transportation conferences focusing on the public outreach aspect of the project. At the conference, information was made available to many members of the professional community (archaeologists, planners, environmental specialists, etc.) regarding the integration of public education and involvement on late discovery projects.

#### *Production of Reader-Friendly Report*

Archaeological reports are traditionally prepared with only a scholarly audience in mind. Although conducted as a late archaeological find, the Cabbage Pond Project is experimenting with a new and innovative approach to technical reports involving large complex projects. Plans are in the works for developing a two-part report that will address public education needs while satisfying applicable state and federal guidelines regarding its content and structure. An important goal of this report is to make the story of the archaeological discovery understandable, educational, more interesting, and more widely available to the community than the typical archaeological report.

While not a traditional popular report, the first part will be prepared in a reader-friendly, non-technical style and format that will contain sections of interest and broad appeal to the public. This includes a highly illustrated volume prepared in two-and three-column format including information on the project's purpose and description, background information on Delaware's milling industry, a history of the Cabbage Pond Mill, a summary of archaeological and laboratory methods and results, and steps taken to involve and educate the public. It is expected that this first volume will contain color photographs, artist renderings, figures, and educational foldouts. A teacher's lesson plan may also be proposed as a companion to this report and could include classroom activities focusing on subjects such as waterpower, elevators, and pulleys to facilitate the teaching of the principles of science and math. Additional future projects could include production of a CD-ROM integrating the report, educational information, and video footage of the site.

While avoiding repetitious information between the volumes, the second part will contain a more standard technical report including the site's research design, a detailed discussion of field and laboratory methods, specialized analyses, and a more traditional analysis and interpretation of the site.

### **Conclusions**

Despite the obvious technical challenges presented by an emergency undertaking, the Cabbage Pond Mill Project presents a coordinated public outreach program, one that could serve as a model for future "late discovery" or other similar data recovery projects. Public education and involvement are important aspects of environmental protection legislation and should be embraced actively by cultural resource practitioners for the benefits it provides to both the public and professional alike no matter what the circumstances. We have demonstrated that even during an unanticipated archaeological discovery, it is possible to keep the public well informed and actively involved. The diversity of the public and their inherent interest in archaeology begs resource managers to inform local communities of their cultural heritage through regular and effective public education and involvement. An informed and supportive public has much to offer, not the least of which is their contribution in reaching the nation's long-term historic preservation goal of protecting cultural resources.

